CLAIMS

[1] A process for producing a multilayered unstretched film according to a multi-manifold method, which comprises separately heating and melting plural thermoplastic resins, widening the heated and melted thermoplastic resins through the respective manifolds, and then combining and extruding them; wherein plural thermoplastic resins that are to be formed into a multilayered unstretched film and another thermoplastic resin than the plural thermoplastic resins are separately heated and melted, the other thermoplastic resin is led to both sides of the plural thermoplastic resins just before the resins are widened in their respective manifolds, then they are fed to the respective manifolds so that the other thermoplastic resin can coexist on both sides of the plural thermoplastic resins, and widened and then combined, and thereafter they are ejected out through the die lip of a T-die onto a casting roll to thereby form a multilayered unstretched film where a multilayered film of the other thermoplastic resin coexists on both sides of the multilayered film of the plural thermoplastic resins, and then the multilayered film of the other thermoplastic resin is cut off.

[2] The process for producing a multilayered unstretched film as claimed in claim 1, wherein the plural thermoplastic resins and the other thermoplastic resin are heated and melted separately in different extruders, and fed to the resin melt

supply ducts connected to the respective extruders for heating the plural thermoplastic resins, the heated and melted plural thermoplastic resins and the heated and melted other thermoplastic resin are fed separately to plural feed blocks where holes are formed on both sides of the lower part of the respective ducts for the plural thermoplastic resins and the end of the duct for the other thermoplastic resin is connected with each hole formed on both sides of each duct, and thereafter these are widened through plural manifolds separately connected to the respective feed blocks and extruded out through the die lip of the extrusion T-dye onto a casting roll in such a condition that the other thermoplastic resin coexists on both sides of the multilayered thermoplastic resins.

[3] The process for producing a multilayered unstretched film as claimed in claim 1 or 2, wherein, in each feed block, the cross section of the lower part of each duct for supply of the plural thermoplastic resins is rectangular, and the cross section of the holes formed on both sides of the lower part of each duct is rectangular.

[4] The process for producing a multilayered unstretched film as claimed in any of claims 1 to 3, wherein the plural thermoplastic resins and the other thermoplastic resin are ejected out through the die lip of the T-die to form the multilayered unstretched film in such a manner that the other thermoplastic resin may form only a part inevitably thicker than the part of the

multilayered plural thermoplastic resins.

[5] The process for producing a multilayered unstretched film as claimed in any of claims 1 to 4, wherein the difference in the melt viscosity between the plural thermoplastic resins and the other thermoplastic resin is at most 3000 poises at a shear rate of from 20 to 500 sec^{-1}.

[6] The process for producing a multilayered unstretched film as claimed in any of claims 1 to 5, wherein the other thermoplastic resin is a colored thermoplastic resin.

[7] A process for producing a multilayered-resin-coated metal sheet comprising forming films according to a multi-manifold method that comprises heating and melting plural thermoplastic resins, separately widening the heated and melted thermoplastic resins through the respective manifolds, then combining and extruding them, and thereafter ejecting and extruding them through the die lip of a T-die onto a metal sheet to coat it by lamination to produce a multilayered-resin-coated metal sheet; wherein plural thermoplastic resins that are to coat a metal sheet by lamination thereon and another thermoplastic resin than the plural thermoplastic resins are separately heated and melted, the other thermoplastic resin is led to both sides of the plural thermoplastic resins just before the resins are widened in their respective manifolds, then they are ejected out onto a metal sheet so that the other thermoplastic resin can coexist on both sides of the plural thermoplastic resins

and that the width of the part of the multilayered thermoplastic resins is larger than the width of the metal sheet to give a resin-coated metal sheet where only the part of the multi-layered thermoplastic resins is laminated on the metal sheet to coat it, and thereafter the resin parts protruding from both sides of the metal sheet are cut off.

[8] The process for producing a multilayered-resin-coated metal sheet as claimed in claim 7, wherein the plural thermoplastic resins and the other thermoplastic resin are ejected out through the die lip of the T-die onto the metal sheet in such a manner that the other thermoplastic resin may form only a part inevitably thicker than the part of the multilayered thermoplastic resins.

[9] The process for producing a multilayered-resin-coated metal sheet as claimed in claim 7 or 8, wherein the difference in the melt viscosity between the plural thermoplastic resins and the other thermoplastic resin is at most 3000 poises at a shear rate of from 20 to 500 sec^{-1}.

[10] The process for producing a multilayered-resin-coated metal sheet as claimed in any of claims 7 to 9, wherein the other thermoplastic resin is a colored thermoplastic resin.

[11] An apparatus for producing a multilayered (n-layered) unstretched film according to a multi-manifold method that comprises separately heating and melting a plural number (n: n is a natural number, and the same shall apply hereinunder)

of thermoplastic resins, then widening the heated and melted, plural thermoplastic resins through the respective manifolds and thereafter combining and extruding them to produce a multilayered (n-layered) unstretched film; the apparatus comprising a plural number (n) of extruders (A1 to An) for separately heating and melting the plural thermoplastic resins to constitute the respective layers of the multilayered (n-layered) unstretched film, at least one extruder (B) for heating and melting another thermoplastic resin than the plural thermoplastic resins, a plural number (n) of ducts (C1 to Cn) for resin melt supply each connected to the respective extruders (A1 to An), a plural number (n) of ducts (D1 to Dn) for resin melt supply each connected to the extruder (B), a plural number (n) of feed blocks where two holes are formed on both sides of the lower part of the ducts (C1 to Cn) for resin melt supply and are connected to the ducts (D1 to Dn) for resin melt supply, a plural number (n) of manifolds, one die lip connected to each manifold, and one T-die connected to each feed block.

[12] The apparatus for producing a multilayered unstretched film as claimed in claim 11, wherein, in each of the plural feed blocks, the cross section of the lower part of each duct to which the plural thermoplastic resins are fed is rectangular, and the cross section of the holes formed on both sides of the lower part of the duct is rectangular.